



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/801,409	03/08/2001	Gajender Rohilla	CD 00-214	2883
20575	7590	04/27/2004	EXAMINER	
MARGER JOHNSON & MCCOLLOM PC 1030 SW MORRISON STREET PORTLAND, OR 97205			RODRIGUEZ, ARMANDO	
			ART UNIT	PAPER NUMBER
			2828	

DATE MAILED: 04/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/801,409

Applicant(s)

ROHILLA, GAJENDER

Examiner

Armando Rodriguez

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4, 18 and 19 is/are allowed.
- 6) ☒ Claim(s) 5-16 and 20 is/are rejected.
- 7) ☒ Claim(s) 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments, see pages 8 and 9, filed January 22, 2004, with respect to the rejection(s) of claim(s) 1-20 under 35 USC 102 and 35 USC 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Link (PN 5,02,089), Link (PN 5,883,910) and Stronczer (PN 6,272,160).

### ***Response to Amendment***

The 35 USC 112 rejection of independent claims 1,8 and 18 have been withdrawn based on applicant's amendment filed on January 22, 2004.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 8-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Link (PN 5,802,089).

Regarding claims 8-10,

Figure 3 illustrates a laser diode driver circuit (300) having a differential circuit with a pair of transistors (306) and (308), where each transistor receives an input ( $I_{IN+}$ ) and ( $I_{IN-}$ ). The circuit includes two current sources an IMOD (310) current source

Art Unit: 2828

connected to both transistors and a second current source IBIAS (304) connected to one of the transistors, where the operation of such circuits is notoriously well in the art, as in Link the combination of the current sources is received by the laser diode when transistor (306) is turned ON. See column 4 lines 46 to column 5 line 49.

Regarding claim 11,

Figure 3 illustrates bipolar transistors (BJT).

Regarding claims 12 and 13,

Figure 3 illustrates the inputs to the BJT's are connected to the base of the transistors.

Regarding claim 14,

Figure 3 illustrates the current source IMOD connected to the emitters of both transistors.

Regarding claim 15,

Figure 3 illustrates the current source IBIAS connected to the collector of one of the transistor.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-7, 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Link (PN 5,802,089) in view of Link (PN 5,883,910) and Stronczer (PN 6,272,160).

Regarding claims 5 and 7,

In figure 3 Link (PN 5,802,089) illustrates a laser diode driver circuit (300) having a differential circuit with a pair of transistors (306) and (308), where each transistor receives an input ( $I_{IN+}$ ) and ( $I_{IN-}$ ). The circuit includes two current sources an IMOD (310) current source connected to both transistors and a second current source IBIAS (304) connected to one of the transistors, where the operation of such circuits is notoriously well in the art, as in Link the combination of the current sources is received by the laser diode when transistor (306) is turned ON. In column 4 lines 13-22 Link (PN 5,883,910), discloses a voltage of 1.8V at the bases of the transistors, which will result in a headroom voltage of about 1V. See column 4 lines 46 to column 5 line 49.

Link (PN 5,802,089) does not disclose using power supply of up to about three volts.

Link (PN 5,883,910) illustrates in figure 3 and teaches of a driver circuit for a laser diode using a power supply in the range of 3V to 5.5 V, as described in the abstract, column 2 lines 22-31 and column 4 lines 13-22.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to apply the teachings of Link (5,883,910) to the driver circuit of Link (PN 5,802,089) because it would allow to drive the laser diode using a lower voltage supply, thereby conserving power.

Regarding claim 6,

In figure 3 Link (PN 5,802,089) illustrates using bipolar transistors (BJT).

Regarding claims 16 and 20,

It is well known in the art to drive laser diodes or VCSEL using transistors as described by Stronczer, in column 1 lines 13-30 and in the abstract.

***Allowable Subject Matter***

Claims 1-4,18 and 19 are allowed.

The following is an examiner's statement of reasons for allowance:

After reviewing applicant's amendment, arguments and conducting an updated search none of the cited prior arts alone or in combination discloses the claimed driver circuit having the cited limitations of independent claims 1 and 18, where the driver circuit uses a voltage source of up to three volts and provides sufficient headroom to ensure proper operation without the use of an alternating circuit.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Claim 17 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: none of the cited prior arts alone or in combination discloses the claimed driver


circuit having the cited limitations of dependent claim 17, where the driver circuit uses a voltage source of up to three volts and provides sufficient headroom to ensure proper operation without the use of an alternating circuit.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Armando Rodriguez whose telephone number is 571-272-1952. The examiner can normally be reached on flex / M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Armando Rodriguez  
Examiner  
Art Unit 2828

  
Don Wong  
Supervisor  
Art Unit 2828

AR/DW

Application/Control Number: 09/801,409  
Art Unit: 2828

Page 7